

DRAGAN BADANJAK, D.Sc.  
Fakultet prometnih znanosti, Zagreb  
DAVOR ŽMEGAČ, B.Eng.  
DRAŽEN KAUŽLJAR, B.Eng.  
Hrvatske željeznice, Zagreb

Traffic Business Administration  
Review  
U. D. C. 656.025.4(497.13 Kutina)  
Accepted: Mar. 13, 2000  
Approved: Mar. 28, 2000

## ECONOMIC VALORISATION OF THE FREIGHT TRANSPORT CENTRE KUTINA

### ABSTRACT

*The paper analyses the conditions for constructing a freight – transport centre in Kutina with special emphasis on the positive influences that such a project could have for the town of Kutina and the Moslavina region. The analysis of the location has shown that the conditions for its establishment have been met, provided that town administration determines the ways in which the project will be realised regarding the necessary financial scheme.*

### KEY WORDS

*freight-transport centre, town of Kutina, integral and combined transport*

### 1. INTRODUCTION

Fast development of technology imposes significantly different ways of thinking in all the segments of human activities, and particularly in economy, which has recently been forced to reduce the production costs at the same time increasing productivity and implementing maximal computerisation of the technological processes. Since transport cost represents an important item in the production mainly in major production systems, it is clear that they want to have maximum influence on the transport costs of raw materials and finished products in the total price of the final product, also increasing the market competitiveness.

All this results in the concept of development of freight – transport centres and other forms of integral and multimodal transport systems that allow optimisation of dispatch and logistical chains.

In such circumstances those units of local management and administration with favourable geo-traffic position and promising economic potential have the possibility to evaluate their comparative advantages in such a way as to provide conditions for the development of private enterprise thus improving the economic development of the town and the wider region. The establishment and development of the freight –

transport centres is precisely one such possibility of town development.

### 2. FUNCTIONS OF A FREIGHT – TRANSPORT CENTRE (FTC)

#### 2.1. Basic functions

FTCs are technological links in the transportation chain between macro-distribution and micro-distribution i.e. they represent points of collecting, storing, processing and distributing of goods with all the basic and additional facilities which serve fast and safe transport in the whole transportation chain.

FTCs provide optimisation of freight flows, increase of transport capacities turnover, reduction of imbalance in flows of goods, complete servicing of the needs of industry for transportation, etc.

Basic functions of FTC operation are considered to be:

- traffic function,
- industry function,
- public – storage function, and
- collective – distribution function.

Therefore, one could say that the basic activities of FTC include:

- handling of freight operations (loading, unloading, reloading),
- storage and distribution of domestic, duty and consignment goods,
- organisation of collective – distribution traffic,
- processing, finishing, sorting, packing, palletising, containerising, and similar activities,
- renting of the storage and other premises.

#### 2.2. Secondary functions

Apart from the basic functions FTCs must also provide a whole range of additional facilities in order to improve the quality of basic services offered. Such

facilities are defined as secondary functions of FTC operation and include:

- catering activities,
- forwarding, representative and other services,
- preparation of goods and documentation for customs formalities,
- public packing, servicing and other activities.

### 3. REASONS FOR ESTABLISHING A FREIGHT – TRANSPORT CENTRE

The aims of establishing FTCs lie not only in the development of industry and traffic efficiency but also in a number of advantages for the units of local administration and self-government. These aims are achieved in four segments that are evaluated through traffic policy, urbanism, development and ecology (Figure 1). Apart from these direct influences, there are also those indirect ones such as:

- increased inflow of financial means into the town budget through taxes and fees,
- construction of the basic infrastructure,
- increased influence and competition in the industry of a region and country,
- raising of the general standard and living conditions of all the citizens of the town of Kutina, etc.

Of course, such an approach requires a different attitude towards managing economic resources available to the town. To achieve this, local government units no longer represent *passive participants* in the development of the town collecting financial means from various taxes and fees that legally belong to them, but they *actively manage* the town property with the aim of creating conditions to stimulate economy.

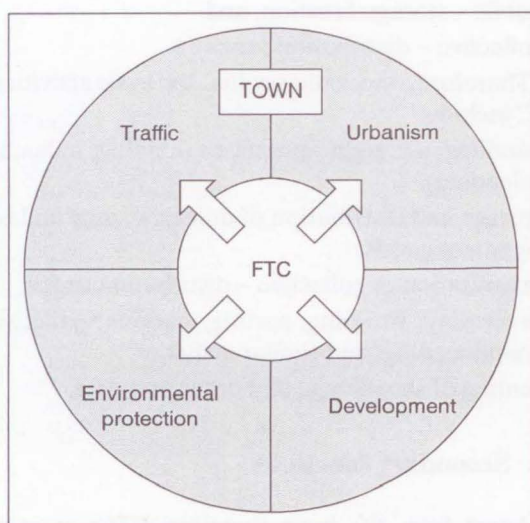


Figure 1 – Influence of FTC on the local government units

#### 3.1. Traffic policy

Improvements and rationalisation of the technological process, better quality of using transport means, improved quality of services, with simultaneous reduction of costs and speeding up of services, development of new technologies, etc.

#### 3.2. Urbanism

Locating carriers in the terminals node results in better usage of town streets as well as of access roads into the town. Heavy vehicles drive less often within the town area if not necessary, and the physical evaluation of the town is of higher quality, savings are made in street maintenance, etc.

#### 3.3. Development

The establishment of FTC directly improves the supply of the town and region, providing prerequisites for further development (free zones, etc.). New jobs are created, i.e. logistical assumptions for the development of all the activities in the town and in the region, and attracting of foreign and national capital since the terminal insures high-quality transport of raw material and finished products on the market at home and abroad. In combination with acceptable renting of the town-owned premises for the development of the industry, long-term good results are achieved.

#### 3.4. Environmental protection

Concentration of activities in the terminal reduces the pollution, noise, possibility of incidents in transport of hazardous substances in the town central area, and reduces the problem of parking, increasing the problem of traffic safety, etc.

### 4. CRITERIA FOR ESTABLISHING AND EVALUATING THE FTC KUTINA LOCATION

#### 4.1. Basic criteria for establishing FTC

Locations of freight – transport centres are determined by the following criteria:

1. development of traffic network, quality of roads, interfaces between several transport branches,
2. freight flows in local and international traffic,
3. types and volume of goods meant for transport, storage, processing, packing, etc.
4. general development of industry, staff, etc.
5. existing terminal infrastructure and estimate of investing into development,

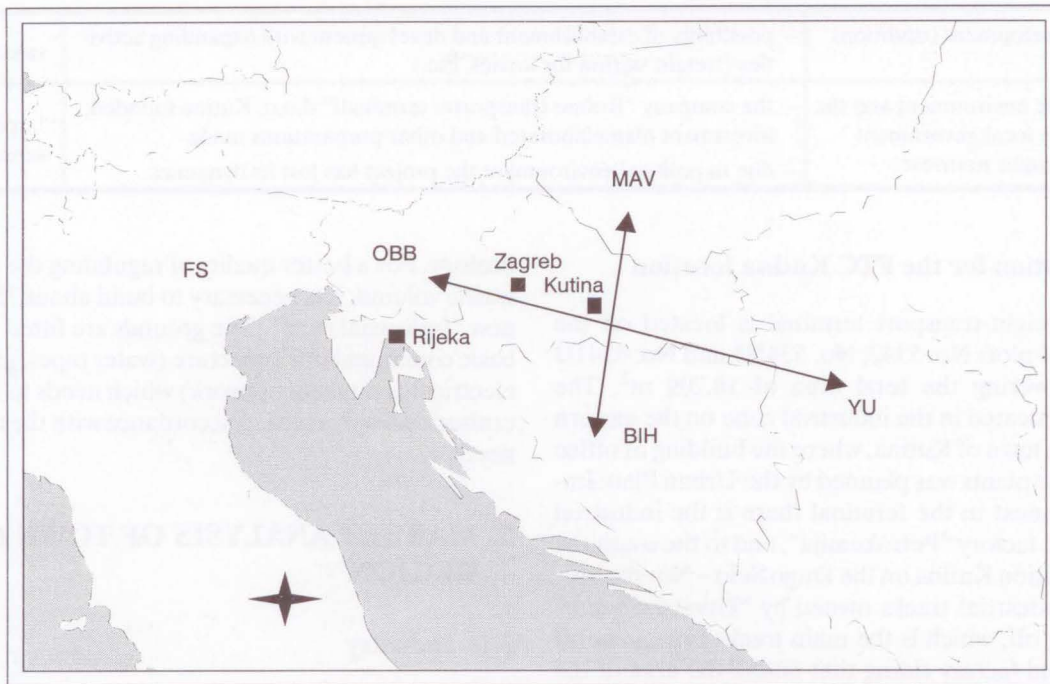


Figure 2 – location of the town of Kutina regarding traffic corridors

- 6. conditions of urban development,
- 7. favourable environment and the wish of the local government and companies to invest.

#### 4.2. Valorisation of the FTC Kutina location

Valorisation of the FTC Kutina location according to the criteria that the location has to meet for the establishment and development of terminals is presented in Table 1.

Table 1: Valorisation of the FTC Kutina location

Criteria	State (description)	Grade
Development of traffic network, quality of roads, interfacing of several transport branches	<ul style="list-style-type: none"> <li>– Zagreb-D.Selo-Novska railway line with railway station in Kutina (corridor X)</li> <li>– International motorway Zagreb-Belgrade with Kutina junction</li> <li>– Main road towards Hungary and the vicinity of the road junction towards Bosnia and Herzegovina</li> <li>– good network of regional and local roads</li> </ul>	satisfactory
Freight flows in local and international traffic	<ul style="list-style-type: none"> <li>– Railway connection in internal and international freight traffic</li> <li>– vicinity of the border road crossings towards Bosnia and Herzegovina and partly MAV</li> </ul>	satisfactory
Types and amounts of goods for transport, storage, processing, packing, etc.	<ul style="list-style-type: none"> <li>– over 2 mill. tonnes of raw materials and finished products only for the needs of “Petrokemija”, Kutina</li> <li>– customs goods in import and export through port and land border crossings from overseas and Germany, Hungary, Poland, etc.</li> <li>– distribution and supply of the wider region of Moslavina</li> </ul>	satisfactory
General development of industry, staff, etc.	<ul style="list-style-type: none"> <li>– Chemical industry “Petrokemija”, Electronic industry (“SELK”), metal industry, etc.</li> <li>– trade, craftsmanship, entrepreneurship, agriculture (grape-growing)</li> <li>– favourable staff structure with great number of highly educated professionals</li> </ul>	satisfactory
Existing terminal infrastructure and estimates of investments	<ul style="list-style-type: none"> <li>– planned space with infrastructure and facilities for FTC owned by the town</li> </ul>	satisfactory

Urban development conditions	– possibility of establishment and development with expanding activities (freight station for lorries, etc.)	satisfactory
Favourable environment and the wish of the local government and companies to invest	– the company “Robno transportni terminali” d.o.o. Kutina founded, investment plan elaborated and other preparations made – due to political environment the project has lost its dynamics	partly satisfactory

### 4.3. Solution for the FTC Kutina location

The freight-transport terminal is located on the grounds of plots No. 5342, No. 5345/3 and No. 5341/3 Kutina covering the total area of 18,709 m<sup>2</sup>. The ground is located in the industrial zone on the eastern side of the town of Kutina, where the building of office and service plants was planned by the Urban Plan. Immediately next to the terminal there is the industrial area of the factory “Petrokemija”, and to the south the railway station Kutina on the Dugo Selo – Novska line, with an industrial tracks owned by “Hrvatske šume” branching off, which is the main tracks branching off into the old factory siding that enters the area of the terminal (the siding is now out of service, and it needs general repair).

The location is connected by an industrial road to the main roads in the direction of Zagreb – Lipovac motorway and Kutina – Virovitica main road as well as regional road Popovača – Kutina – Novska. Except for the direction towards Virovitica, the traffic flows of the downtown are not burdened, which is particularly favourable from the point of view of traffic, safety and

ecology. For a better quality of regulating the planned traffic volume, it is necessary to build about 750 of the new “Industrial road”. The grounds are fitted with the basic communal infrastructure (water pipes, gas pipes, electrical and postal network) which needs to be modernised and optimised in accordance with the terminal needs.

## 5. MARKET ANALYSIS OF TOWN AND REGION

### 5.1. Industry

The main industrial subject which is the basis of the complete industry of the town of Kutina, as well as of the Moslavina region, is “Petrokemija” d.o.o., factory of mineral fertilisers, Kutina. From the beginning of manufacture in 1968 till the end of its second phase, 1984, “Petrokemija” Kutina influenced significantly the economy of the region, even of a wider area, and also the establishing of significant new freight flows.

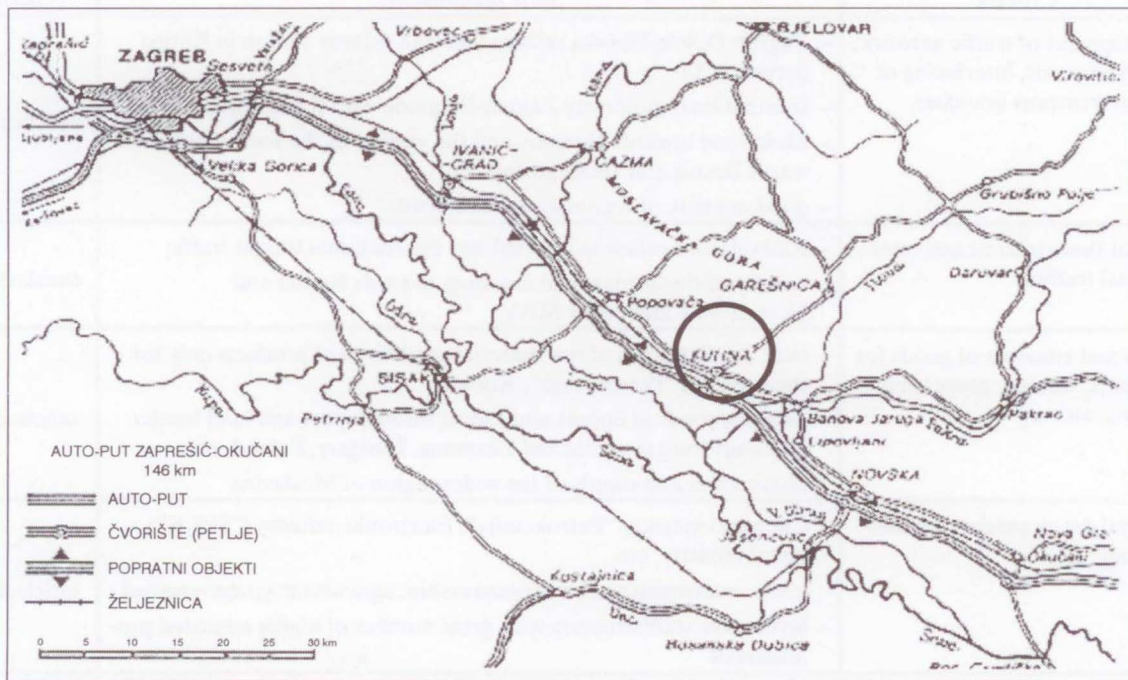


Figure 3: Geographical position of the town of Kutina within the region

Source: H. Vrgoč; Novska, Kutina, Ivanjič-Grad and the environment, Školska knjiga, Zagreb, 1987

Regarding the big volume of production, freight flows for the factory needs were formed in two basic directions:

1. freight flows of supplying raw materials,
2. freight flows of distributing finished products

The freight flows of raw materials supply are formed on the following routes:

- *Ports of Rijeka, Bakar, Šibenik, and Solin – railway station Kutina (supply of raw materials from overseas countries in ship-railway combination),*
- *Savski Marof – Kutina (raw materials supply from western countries by rail),*
- *Koprivnica – Kutina (supply of raw materials from Central and Eastern Europe by rail),*
- *Loko Hrvatska – Kutina (supply of raw materials from the Croatian region to Kutina with the characteristic example of daily railway line between Sirač – Kutina supplying dolomites for the needs of the factory).*

The freight flows of distributing finished products are formed on the following routes:

- *Kutina – ports of Rijeka, and Šibenik (ship-railway combination in export to overseas markets and the Near East market) and river port of Vukovar and Nemetin (railway – river fleet for Austria and Germany),*
- *Kutina – Italy (railway),*
- *Kutina – Slovenia, Hungary, Germany, Austria and other European countries (railway and road),*
- *internal transport on the Croatian territory (road and railway).*

Apart from “Petrokemija”, small- and mid-size entrepreneurship has been developed, and owing to its geographical position and industrial, cultural and staff

potential, Kutina is the centre of the Moslavina region and hub of industrial flows in the region and surrounding areas such as Pakrac, Novska, Daruvar, Garešnica, Popovača, etc. Such location makes the town of Kutina the logistical basis for the industry in the region and migration settlements.

## 5.2. Accompanying activities

Regarding market needs, there is the necessary service infrastructure such as Customs post, forwarding agencies “Transadria”, “Intereuropa”, and a number of minor private forwarding agencies, bank branches of “Privredna banka, Zagreb”, “Agroobrt- nička banka”, “Trgovačka banka” “Zagrebačka banka”, commercial chain “Lonia” that supplies the wider region of Moslavina, a number of workshops, servicing and catering facilities, etc.

## 5.3. Transport indicators obtained by market analysis of town and region

### 5.3.1. Railway

Railway station Kutina is a station on the Zagreb – Dugo Selo – Novska line, and a specialised freight railway station for the needs of mass transportation regarding “Petrokemija” Kutina. Apart from these activities, the station also serves the purposes of en-route customs clearance of wagon deliveries in arrival towards Pakrac, Daruvar, Lipik, Nova Gradiška, Novska, etc. and from these directions in export for the west-European market. At the station there is also the “Dom Ekspres” company for transport of parcels by railway, covering the collecting area from Ivanić

**Table 2: Operation at industrial and station tracks during 1994 and 1995**

Industrial track	Operation	1994		1995	
		Wagons	Tonnes	Wagons	Tonnes
PETROKEMIJA (Petro-chemistry)	Loading	18086	657360	16624	635462
	Unloading	12180	551342	13635	619082
	Total	30266	1208702	30259	1254544
ŠUMARIJA (Forestry)	Loading	181	5003	59	1920
	Unloading	0	0	0	0
	Total	181	5003	59	1920
TVORNICA GLINE I ČAĐI (Factory of clay and soot)	Loading	91	2734	19	326
	Unloading	715	34668	837	39632
	Total	806	37402	856	39958
RECAPITULATION	Loading	18358	665097	16702	637708
	Unloading	12895	586010	14472	658714
	Total	31253	1251107	31174	1296422

Source: HŽ (Croatian Railways) documentation – railway station Kutina, 1994-1995

Table 3 – Work of Customs post Kutina in 1996 and 1997

Year	No. of customs declarations	Road (ca. 90% of the total amount)	No. of working days	Average road vehicles	
				Daily	Annually
1996	26249	23624	260	90	23400
1997 1	15899	14309	135	105	141752 1

<sup>1</sup> until June 12, 1997

Source: Customs post Kutina documentation, 1996-1997

Grad, Garešnica, Daruvar and Pakrac to Kutina. The total volume of railway freight transport amounts to 1.2 mill. tonnes annually (Table 2).

### 5.2.2. Road

Regarding industrial needs of the town and the region, the total freight transport by road vehicles is estimated at about 1.3 mill. tonnes annually. Out of this the operations in international traffic are presented in Table 3 containing data on the work of the Customs post Kutina (*number of customs declarations = number of vehicles*).

## 5. CONCLUSION

The implementation of the construction project of the freight – transport centre Kutina included a number of preparation activities as basis for the final realisation of the project, such as:

- 1) foundation of the trade company “Robno transportni terminali” d.o.o. Kutina completely owned by the Town with capital stock in land, facilities and financial means,
- 2) conceptual design of the terminal developed and the location permit obtained,
- 3) agreement obtained from the State customs administration on the location,
- 4) Investment programme developed and conditions for the funding scheme with deadlines defined,
- 5) capital market analysed as well as possibilities of insuring credit instruments,
- 6) survey of the market, forwarding agencies and banks carried out,
- 7) pre-activities carried out for the construction of “industrial road”.

However, certain changes in the political envelop of the local government units have caused a standstill in the project which has no justification since the town of Kutina is in great need for such a project and it has good predisposition for profitable operation. Also, the project insures development, first of all in the sense of constructing a Freight station for lorries within the terminal. Current situation in the town is such that a great number of heavy lorries are parked and serviced in public areas, which is dangerous for traffic, quality of living, and may cause incidents in case of damage on transport vehicles and freight

(tanker lorries with chemicals, etc.). By not realising such a project, the town of Kutina will miss using its comparative advantages and thus not establish the necessary logistical conditions for a propulsive development of industry in its region, and for achieving and holding its leading position in the Moslavina region.

It is both possible and necessary to have a discussion about the way of implementing the project, particularly with the aim of making decisions regarding:

- *ways of financing (credits, concessions, town bonds, etc.),*
- *ownership (100% town ownership, joint stock company, etc.),*
- *amount of investments and facilities,*
- *possibilities of phase-construction,*
- *contract awarding to interested companies,*
- *etc.*

However, giving this project up i.e. slowing it down is extremely damaging regarding the disposition of the project, its profitability, significance for the Town and the region and maximal advantage of the comparative benefits for further development of the town of Kutina.

### SAŽETAK

#### GOSPODARSKA VALORIZACIJA ROBNO TRANSPORTNOG CENTRA KUTINA

*U radu se analiziraju uvjeti za osnivanje robno transportnog terminala u Kutini sa posebnim naglaskom na pozitivne uticaje takvog projekta na grad Kutinu i regiju Moslavinu. Vrednovanjem lokacije terminala utvrđeno je da su ispunjeni uvjeti za njegovu osnivanje uz uvjet da se u strukturama grada utvrde načini realizacije projekta s obzirom na potrebnu financijsku konstrukciju.*

### LITERATURE

- [1] **I. Marković:** *Integralni transportni sustavi i robni tokovi*, Zagreb, Fakultet prometnih znanosti, 1990
- [2] **A. Stipetić:** *Razvoj robnih terminala u funkciji kombiniranog prometa*, *Suvremeni promet*, 15 (1995), 1-2, pp. 90-93
- [3] **N. Đaković:** *Koncepcija osnivanja RCT-a Jasenovac i značaj za središnji prostor Republike Hrvatske*. *Suvremeni promet*, 13 (1991), 1, pp. 9-17
- [4] *Investment programme of the Kutina terminal construction*, Tehno-ing. Zagreb, 1997